**Explanation of the seven ladders used for the GNTM Tennis Report Card.**

To be selected a player needs to play a minimum number of matches or tournaments. Achievers who did not play the minimum number of matches were excluded.

There are eight categories that are evaluated based on match results only. No subjective evaluation takes place. Seven of the categories were ladder positions of the players on different ladders. The ladder position was based on a tennis achievement which was measured mathematically. The eighth category was the number of singles matches played between 10 January 2015 and 28 January 2017.

The seven ladders that measured different tennis achievements of the 194 players were each calculated and the mathematical figure was listed from the best to the weakest.

The different tennis achievements that made up the ladders are listed below and will be explained later:

* Position on the Current Rating Ladder
* Position on the Improvement Index Ladder
* Position on the Improvement Ladder (Determines tennis bursary)
* Position on the Mental Toughness Percentage Ladder
* Position on the “How good a player are you?” Ladder
* Position on the Mental Toughness Score Ladder
* Position on the average of six ladders

Current Rating Ladder

The Current Rating Ladder is based on the ITN Rating Calculation. The ITN Rating Calculation was developed by the International Tennis Federation and is used worldwide. The ITN Rating Calculation determines each player’s rating. The rating indicates the strength of the player. After each Good News Tennis Ministries Tournament a link is added to an e-mail which explains how the ITN Rating Calculation works. This ITN Rating Calculation is the foundation of the seven ladders. By understanding it you can see how 219 players of different ages and genders can be compared to each other based on tennis achievements. Although easy to understand, it is essential to grasp so that you can see how the seven ladders are calculated. This link is a must read. You cannot understand the rest of this post without reading this link. <http://www.goodnewstennis.co.za/how-the-itn-rating-calculation-works/>

After knowing how a score is given for each match and how after 8-10 matches your rating is re-evaluated because you read the link, I will explain how the current rating is calculated to the nearest four decimals. When a player plays his/her first tournament he receives a subjective rating (green) after the tournament. All the match scores (ITN Rating Calculation) are added and divided by the number of matches to arrive at an average. The subjective rating, minus the average gives the current rating. After 8 - 10 matches the current rating which is known as Starting Point Rating (red) is copied to next line to be subtracted from the average of the following matches. If the average is negative the current rating increases (gets worse), while if the average is positive the current rating decreases (improves)

Improvement Index Ladder

Improvement without weighting is calculated as follows: Current Rating minus Starting Point Rating = Improvement without weighting. Starting Point Rating (green) is calculated only once. Subjective Rating (green) minus average of 8-10 matches to give current rating (red). Current Rating is known as Starting point rating which is always underlined, italicised and bolded. The Improvement without weighting changes after each new current rating is calculated.

Improvement Ladder

Improvement without weighting, multiplied by weighting is the final value that the improvement ladder is based on.

Weighting of a player’s Starting Point Rating was introduced so that the better players had an equal chance of showing sufficient improvement to win the bursary. When the bursary was introduced it discriminated against the top players, because it is more difficult to improve if you have a low ITN Rating. An athletic beginner with a starting point rating of 10 can easily improve to an ITN Rating of 7. Whereas a player with a beginning ITN rating of 6 will find it difficult to improve to an ITN rating of 4. It can be compared to measuring grades at school. A student who is failing badly can apply himself and double his grade (%), while a pupil who has a distinction can’t double his mark. To compare the improvement made by the strong player, the improvement made by the athletic beginner weighting of the Starting Point Rating was introduced. It was decided to give weights for the different ratings (only the beginning rating is weighted). A beginner is a rating 10 and a professional player is a rating 1. A weight of 10 is given to a Rating 1 and a weight of 1 is given to a Rating 10. Therefore the following weights are given:

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Rating | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| Weight | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

A sensitivity analysis is done after each tournament to show how easily players with moderate to good performances during the recent tournament, climbed the improvement ladder. The sensitivity analysis illustrates how recent successes have great impact on climbing the improvement ladder.

Mental Toughness Percentage Ladder

Remember the post on how the ITN Rating Calculation works when you can only win one point if you beat a player with the same rating as you? If you lose to a player with the same rating as you your score for the match is “-1”. You can only earn a “+1” or “-1” if you play a player of your strength (rating) and it is assumed the difference between the two players is mental toughness. This is how Good News Tennis Ministries measures mental toughness.

How good are you? Ladder

This is the only ladder where the ITN Rating Calculation is ignored. The total number of matches won against all ratings is divided by the total number of matches lost against all ratings to give a ratio. This ladder obviously favours the strong players as they are in no way handicapped.

Mental Toughness Score Ladder

Once again we refer to the ITN Rating Calculation. You must understand how a player can score +4;+3;+2;+1;0;-1;-2;-3;-4. All the plus scores are added and added to the sum of the minus scores to give an ITN Score.

Average of six ladders

The six ladders ladder positions are added and divided by 6 to give an average. Players with an average of less than 50 are classified as merit award winners.

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